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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,654	09/29/2003	Robert Cypher	5181-21403	2354

7590 08/17/2004

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EXAMINER

NGUYEN, THAN VINH

ART UNIT PAPER NUMBER

2187

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/673,654	Applicant(s) CYPHER, ROBERT	
	Examiner Than Nguyen	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. The preliminary amendment, filed 9/29/03, has been entered.
2. Claims 1-20 are pending.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "System and Method for Increasing the Snoop Bandwidth to Cache Tags in a Multiport Cache Memory Subsystem".

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 6,16 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1,9 of prior U.S. Patent No. 6,289,420. This is a double patenting rejection.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

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F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-20 are rejected under the judicially created doctrine of double patenting over claims 1-16 of U. S. Patent No. 6,289,420 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: the current applicant has broader claim language than the claims of the 6,289,420 patent. Therefore, the claims of the 6,289,420 anticipates the claims of the current application since they read upon all of the claimed limitations and more.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

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8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1,3-5,11,13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Horst (EP 0 365 281).

As to claims 1,11:

Horst discloses a cache system supporting fast unaligned access. Horst teaches a computer system comprising:

a processor; and

a cache memory subsystem (Figure 3; cols 3-5) coupled to the processor, wherein the cache memory subsystem includes:

a cache controller (col 3 ln 15 - col 4 ln 18); and

a cache memory (Figure 3) including a plurality of memory chips coupled to the cache controller for storing a plurality of cache lines, wherein separate subsets of said plurality of cache lines form separate classes of cache lines, and wherein address tags of cache lines of different classes are stored in different ones of said memory chips;

wherein the cache controller is configured to control accesses to the cache memory such that a first set of address tags corresponding to a first subset of the plurality of cache lines is stored in a first of the memory sections and that a second set of address tags

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corresponding to a second subset of the plurality of cache lines is stored in a second of the plurality of memory sections (col 3 ln 15 - col 5 ln 40).

As to claim 2,12:

Horst teaches wherein said cache controller is configured to concurrently access a first address tag corresponding to a first cache line and a second address tag corresponding to a second cache line, wherein said second cache line is non-contiguous to the first cache line (each of cache section 40(0) and 40(1) are separately addressable; col 5 ln 23- col 5 ln 40; Figures 3,5).

As to claims 3,13:

Horst teaches the first cache line corresponds to a first snoop request and the second cache line corresponds to a second snoop request (col 4 lns 19-39).

As to claims 4,14:

Horst teaches the first address tag is stored in a first plurality of memory chips (even tag store 42; col 3 lns 25-30) and the second address tag is stored in a second plurality of memory chips (odd tag store 48; col 3 lns 30-35).

As to claims 5,15:

Horst teaches the cache line includes a tag field and a data field (Figure 3).

As to claims 21,22,24:

Horst discloses a cache system supporting fast unaligned access. Horst teaches method of operating a cache memory subsystem comprising:

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storing a plurality of cache lines within corresponding entries of plurality of memory chips, wherein an address tag corresponding to a first cache line is stored in a first memory chips and wherein a second address tag corresponding a second cache line is stored in a second of the memory chips, and wherein the second cache line is non-contiguous to the first cache line (each of cache section 40(0) and 40(1) are separately addressable; col 3 ln 15 - col 5 ln 40; Figures 3,5);

receiving a plurality of snoop requests (col 4 lns 2-58); and

reading the first address tag and the second address tag from the first and second memory chips concurrently in response to the snoop requests (col 2 lns 8-16; col 4 ln 2 - col 5 ln 5).

Allowable Subject Matter

10. Claims 6-10,16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if the double patenting rejections above are overcome .

11. The following is a statement of reasons for the indication of allowable subject matter: As to claims 6,16 the prior art of record does not teach nor suggest the tag field further storing coherency state information of the corresponding data.

12. Claims 7-10 and 17-20 are also allowable for incorporating the limitations of claim 6/16, and further limitations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Than Nguyen whose telephone number is 703-305-3866. The examiner can normally be reached on 8am-3pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on 308-1756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Than Nguyen
Examiner
Art Unit 2187